

EXECUTIVE SUMMARY

HANFORD SITE 100 AREA ASSESSMENT PLAN VOLUME I: COLUMBIA RIVER AQUATIC RESOURCES

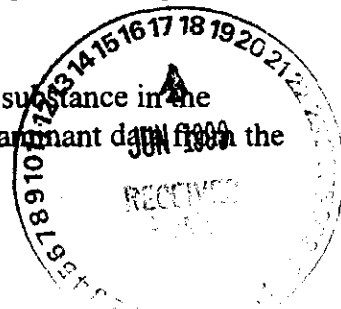
This document is the first volume of the Hanford Site 100 Area Assessment Plan. The goal of an assessment plan is to determine the injury to natural resources caused by releases of hazardous substances, and ultimately to restore and further protect these resources from future exposure. This document represents the first phase of a comprehensive process to examine injuries from Hanford Site 100 Area releases. During this first phase, only current injuries to aquatic resources in the Columbia River will be investigated. Investigation of past injuries or injuries to other natural resources from 100 Area releases will not be included in this phase, but may be addressed at a later date at the discretion of the trustees.

This phase of the Assessment Plan was prepared by the U.S. Fish and Wildlife Service's (USFWS) Upper Columbia River Basin Field Office at the direction of the Hanford Natural Resource Trustee Council (HNRTC). The HNRTC is comprised of representatives from state, federal, and tribal natural resource agencies who are currently participating in the assessment process. It is designed to be in general accordance with the Natural Resource Damage Assessment (NRDA) Regulations, 43 CFR Part 11, promulgated by the U.S. Department of the Interior. The Hanford 100 Area assessment is a public process, and represents a HNRTC joint effort. The participating natural resource trustees are responsible for making decisions regarding the assessment process.

This first phase of the Assessment Plan includes the Columbia River and associated aquatic system from River Mile 385, located in the Hanford Reach, out to the Pacific coast. No data were located indicating exposure of aquatic resources to Hanford-derived contaminants in the portion of the Hanford Reach between Priest Rapids Dam and River Mile 385. Therefore, River Mile 385 has been established as the upstream boundary of the assessment area. The assessment area was evaluated in three sections; River Mile 385 to McNary Dam, McNary Dam to the mouth of the Columbia River, and coastal areas near the mouth of the Columbia River. This phase focuses primarily on the first segment of the assessment area (River Mile 385 to McNary Dam), since this is the area of documented current exposure.

The HNRTC decided to proceed with the Assessment Plan based on the presence of a hazardous substance (Chromium (VI) or (Cr (VI))), exceeding aquatic life criteria in groundwater as it emerges into the Columbia River. This exceedence meets the NRDA definition of injury to groundwater. This phase of the Assessment Plan focuses on the most recent contaminant data available from the 100 Area and the Columbia River to document current exposure and potential injury scenarios.

The methods used to confirm exposure of a natural resource to a hazardous substance in the assessment area are: 1) comparisons of groundwater and surface water contaminant data. The



assessment area, to State of Washington and federal water quality criteria to protect human health and the environment; 2) comparisons of sediment contaminant data from the assessment area to sediments from reference or background sites; and 3) comparisons of contaminant residue data in aquatic biota from the assessment area to aquatic biota residue data from reference or background sites.

The data reviewed for this phase of the Assessment Plan confirms that aquatic resources (water, biological, geological, and cultural) in different segments of the Columbia River have been and currently are being exposed to hazardous substances (radionuclides, metals, and organic compounds) released from the 100 Area. The substances of primary concern to aquatic biological resources in the Columbia River are Cr (VI), strontium (Sr-90), and possibly tritium because of their areal extent of contamination, the number of elevated concentrations detected, and the number of natural resources exposed.

Several potential investigative approaches are presented in this volume to evaluate injury of aquatic resources in the Columbia River. Investigations presented in this document could be used to: 1) establish groundwater cleanup criteria; 2) establish/confirm a pathway for contaminants to reach a receptor; and 3) document injury from hazardous substance releases from the 100 Area.

The following additional injuries to natural resources from 100 Area releases will not be addressed in this phase of the Plan, but may be addressed by additional volumes to the Assessment Plan: investigation of past injuries to Columbia River aquatic resources, current or past injury in other aquatic systems (lakes), current or past injury to terrestrial resources, and any cumulative injuries among the natural resource systems or from the additive effect of other sources of contamination are not addressed in Phase I. The HNRTC will prioritize additional phases (volumes) based on: presence of known or suspected injury to natural resources, importance of natural resources potentially impacted, ability to influence remedial decisions, and availability of funds. Additional volumes will be developed on an as-needed basis. Investigation of injury due to other Hanford Site releases (e.g., from 200 and 300 Areas) will be addressed as appropriate under separate NRDA assessments.